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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/909,016	07/20/2001	Hisao Tajima	35.C15582	9097

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EXAMINER

LEE, WILSON

ART UNIT PAPER NUMBER

2821

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/909,016

Applicant(s)
Tajima et al.

Examiner
Wilson Lee

Art Unit
2821



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jul 15, 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-149 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-129, 132, and 133 is/are allowed.
- 6) ☒ Claim(s) 130, 131, 134-146, and 148 is/are rejected.
- 7) ☒ Claim(s) 147 and 149 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

Claim Rejections – 35 U.S.C. 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 130, 131, 134-146, 148 are rejected under 35 U.S.C. 102(b) as being anticipated by Oda (5,866,988).

Regarding Claim 130, Oda discloses an electron-emitting apparatus comprising:

- electron-emitting devices (8 or 86);
- driving wires (22) connected to said electron-emitting devices (See Figure 22, Col. 27, lines 53-65);
- an electron source substrate (1) on which said electron-emitting devices and said driving wires are arranged;
- an acceleration electrode (15, 36) mounted at a position facing said electron source substrate, said acceleration electrode being applied with an acceleration potential for accelerating electrons emitted from said electron-emitting devices (See Col. 15, lines 33-48);
- a potential supply path (wire connected to 15 in Figure 7) for supplying the acceleration potential to the acceleration electrode, at least a portion of said potential supply path passing through the electron source substrate;
- a first wire (wire connected to the electrodes 2 or 3 in Figure 7) provided separately from said driving wires (22) and formed on a surface between the

portion of said potential supply path (wire connected to electrode 15, from the ground via the power source 14 to electrode 15 shown in figure 7) and said driving wires (on the substrate 1 in figure 22), thus the driving wires (22) is on the left side of the first wire and supply path is on the right side of the first wire; and

- a resistor film (4 and 5) (See Col. 8, lines 33-34) formed on a surface between the first wire (film (4, 5) is in the emitting device 86 and the first wire is on substrate 1 shown in figure 22 on the left side of the device) and the portion (on the right side of the device shown in figure 7) of said potential supply path, said resistor film being electrically connected with said potential supply path and said first wire (See Figures 7 and 22).

Regarding Claim 131, Oda discloses an electron-emitting apparatus comprising:

- electron-emitting devices (8, 86);
- driving wires (22) connected to said electron-emitting devices (86) (See Figure 22 and Col. 27, lines 53-65);
- an electron source substrate (1) on which said electron-emitting devices and said driving wires (22) are arranged (See Figure 22);
- an acceleration electrode (15, 36) mounted at a position facing said electron source substrate (1), said acceleration electrode being applied with an acceleration potential for accelerating electrons emitted from said electron-emitting devices (See Col. 15, lines 33-48);

- a potential supply path (wire connected to 15 in Figure 7) for supplying an acceleration potential to said acceleration electrode, at least a portion of said potential supply path passing through said electron source substrate;
- a first wire (wire connected to the electrodes 2 or 3 in Figure 7) provided separately from said driving wires (22 in figure 22) and formed on a surface (on substrate 1) between the portion of the potential supply path (on the right side of the first wire; the wire connected to the electrode 15 in figure 7) and said driving wires thus the driving wires (22) is on the left side of the first wire and supply path is on the right side of the first wire; and
- a periodical projection/recess structure (e.g. a well portion between the films 4, 5 shown in figure 7, figure 2, and figure 86) formed on a surface between said first wire (wire connected to electrode 3) and the portion of said potential supply path (wire connected from V_f to electrode 9).

Regarding Claim 134, Oda discloses an electron-emitting apparatus comprising:

- electron-emitting devices (8, 86);
- driving wires (22) connected to said electron-emitting devices (8, 86) (See Figures, 2 and 22);
- an electron source substrate (1) on which said electron-emitting devices and said driving wires are arranged, wherein on said substrate is provided a portion (wire connected from ground to electrode 15, 9 or 36), to which an acceleration potential for accelerating electrons emitted from said electron-emitting devices is supplied;

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- a first wire (wire connected to electrodes 2 or 3 shown in figure 7) provided separately from said driving wires (22 since wires 22 is on substrate 1 shown in figure 22) and formed on a surface between the portion (this portion is a wire on the right side of the device 8 or 86, see figures 7 and 22) and said driving wires (22, wires 22 is on the left side the device 8 or 86 shown in figure 22); and
- a resistor (4, 5) electrically connected with the portion and said first wire (See Figure 7).

Regarding Claim 135, Oda discloses an electron-emitting apparatus comprising:

- electron-emitting devices (8, 86);
- driving wires (22) connected to said electron-emitting devices (8, 86) (See Figures 2 and 22);
- an electron source substrate (1) on which said electron-emitting devices (8, 86) and said driving wires (22) (See Figures 2 and 22) are arranged, wherein on said substrate is provided a portion (wire connected to electrode 15, 9 or 36 from the ground via the power source) to which an acceleration potential for accelerating electrons emitted from said electron-emitting devices is supplied (See Col. 15, lines 33-48);
- an electro-conductive film (emitting region 7) provided separately from said driving wires (22) and formed on a surface between the portion and said driving wires; and

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- a resistor film (4, 5) formed on a surface between said first wire (wire connected to electrode 2) and the portion (wire connected to electrode 15 via sources (13, 14)) (See Figure 7).

Regarding Claim 136, Oda discloses an electron-emitting apparatus comprising:

- electron-emitting devices (8, 86);
- driving wires (22) connected to said electron-emitting devices (8, 86);
- an electron source substrate (1) on which the electron-emitting devices and said driving wires are arranged, wherein on said substrate is provided a portion to which an acceleration potential for accelerating electrons emitted from said electron-emitting devices is supplied (See Col. 15, lines 33-48);
- a first wire (wire connected to electrodes 2 or 3 shown in figure 7) provided separately from said driving wires (22) and formed on a surface between the portion and said driving wires (22); and
- a periodical projection/recess structure (e.g. a well between films 4, 5 or 86 shown in figures 2 and 22) formed on a surface between said first wire and the portion.

Regarding Claim 137, Oda discloses an electron-emitting apparatus comprising:

- electron-emitting devices (8, 86);
- driving wires (22) connected to said electron-emitting devices (8, 86);
- an electron source substrate (1) on which said electron-emitting devices (8, 86) and said driving wires (22) are arranged, wherein on said substrate is provided a portion (e.g. wire connected to electrode 9, 15 or 36) to which an

- acceleration potential for accelerating electrons emitted from said electron-emitting devices is supplied (See Col. 15, lines 33-48);
- an electro-conductive film (emitting region 7) provided separately from said driving wires (22) and formed on a surface between the portion (wire connected to electrode 9, 15, 36) and said driving wires (22); and
 - a periodical projection/recess structure (e.g. a well between films 4, 5 or 86 shown in figures 2 and 22) formed on a surface between said first wire and the portion.

Regarding Claim 138, Oda discloses an electron-emitting apparatus comprising:

- electron-emitting devices (8, 86);
- driving wires (22) connected to said electron-emitting devices (8, 86) (See Figures 7 and 22);
- an electron source substrate (1) on which said electron-emitting devices (8, 86) and said driving wires (22) are arranged;
- an acceleration electrode (9, 15 or 36) being applied with an acceleration potential for accelerating electrons emitted from said electron-emitting devices (See Col. 15, lines 33-48);, wherein the acceleration potential is supplied via a portion (portion on the right side of the substrate 1) passing through said electron source substrate; and
- a resistor (4, 5) formed on said electron source substrate (1), said resistor being electrically connected with a potential supply path (wire connected to electrode 9, 15, 36) for supplying the acceleration potential.

Regarding Claim 139, Oda discloses an electron-emitting apparatus comprising:

- electron-emitting devices (8, 86);
- driving wires (22) connected to said electron-emitting devices (8, 86) (See figure 7);
- an electron source substrate (1) on which said electron-emitting devices (8, 86) and said driving wires (22) are arranged;
- an acceleration electrode (9, 15 or 36) being applied with an acceleration potential for accelerating electrons emitted from said electron-emitting devices (See Col. 15, lines 33-48), wherein the acceleration potential is supplied via an intermediate area (area on the right side of the substrate 1) on a side of said electron source substrate (1); and
- a resistor (4, 5) formed on said electron source substrate (1), said resistor (4, 5) being electrically connected with a potential supply path (wire connected to electrode 9, 15 or 36) for supplying the acceleration potential.

Regarding Claim 140, Oda discloses an electron-emitting apparatus comprising:

- electron-emitting devices (8, 86);
- driving wires (22) connected to said electron-emitting devices (8, 86) (See Figure 22);
- an electron source substrate (1) on which said electron-emitting devices (8, 86) and said driving wires (22) are arranged;
- an acceleration electrode (9, 15 or 36) being applied with an acceleration potential for accelerating electrons emitted from said electron-emitting

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devices (See Col. 15, lines 33-48), wherein the acceleration potential is supplied via a portion (area on the right side on the substrate 1 in figure 7) passing through said electron source substrate (1);

- a first wire (wire connected to electrode 2 or 3) provided separately from said driving wires (22, since wire 22 is sandwiched between substrate 1 and emitter 86 shown in figure 22) and formed on said electron source substrate (1); and
- a resistor (4, 5) which is electrically connected with a potential supply path (wire connected to electrode 9, 15 or 36) for supplying the acceleration potential and said first wire.

Regarding Claim 141, Oda discloses an electron-emitting apparatus comprising:

- electron-emitting devices (8, 86);
- driving wires (22) connected to said electron-emitting devices (See Figure 22);
- an electron source substrate (1) on which said electron-emitting devices (8, 86) and said driving wires (22) are arranged;
- an acceleration electrode (9, 15, or 36) being applied with an acceleration potential for accelerating electrons emitted from said electron-emitting devices (See Col. 15, lines 33-48), wherein said acceleration potential is supplied via an intermediate area (area on the right side of substrate 1 in figure 7) on a side (right side) of said electron source substrate (1);

- a first wire (wire connected to electrodes 2 or 3 shown in figure 7) provided separately from said driving wires (22) and formed on said electron source substrate (1); and
- a resistor (4, 5) which is electrically connected with a potential supply path for supplying the acceleration potential (wire to electrode 9 shown in figure 2) and said first wire (wire connected to electrode 2 or 3) (See figures 2 and 7).

Regarding Claim 142, Oda discloses that a resistor film (4, 5) is formed as said resistor on said electron source substrate (1) (See Figure 7 and Col. 8, lines 33-34).

Regarding Claim 143, Oda discloses that a resistor film (4, 5) is formed as said resistor on said electron source substrate (1) (See Col. 8, lines 33-34).

Regarding Claim 144, Oda discloses that a resistor film (4, 5) is formed as said resistor (See Col. 8, lines 33-34).

Regarding Claim 145, Oda discloses that a resistor film (4, 5) is formed as said resistor (See Col. 8, lines 33-34).

Regarding Claim 146, Oda discloses that the potential supply path (wire connected to electrode 9, 15, 36) is a conductor (since wire is conductive for conducting electricity from the source to the electrode 9, 15, or 36).

Regarding Claim 148, Oda discloses that the potential supply path (wire connected to electrode 9, 15, 36) is a conductor (since wire is conductive for conducting electricity from the source to the electrode 9, 15, or 36).

Allowable subject matter

Claims 1-129, 132 and 133 are allowed.

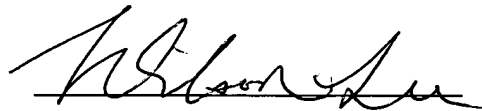
Claims 147 and 149 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hara et al. (4,893,056) discloses a fluorescent display apparatus.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Wilson Lee whose telephone number is (703) 306-3426. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (703) 308-0956. Papers related to Technology Center 2800 applications may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The Technology Center Fax Center number is (703) 308-7722 or (703) 308-7724.



Wilson Lee
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